Comprehensive Index for 1986

Editor's Note: The following is a subject index of articles appearing in 1986 issues of *Transportation Quarterly* (Vol. 40). A short digest of each article is provided to assist transportation executives, public officials, planners, engineers, educators, and students in researching specific transportation topics. Reprints of articles appearing in the Quarterly are free upon request to the Foundation.

AIR

"Airfreight Forwarders," Denis M. McCarthy, January, 97–108.

The current airfreight market has been influenced, in part, by domestic deregulation and changes in the type of services customers demand. While the demand for door-to-door airfreight service is experiencing huge annual growth in the United States, it is only beginning to catch on in the world marketplace. This article describes the new breed of airfreight forwarders who operate fleets of airplanes as international, multimodal companies, and discusses the world air cargo market and how it is developing.

BUS

"A Methodology for Evaluating Bus Service Cutback Programs," Ramakrishna Reddy Tadi, Snehamay Khasnabis, and Kenneth S. Opiela, April, 243–262.

Between 1970 and 1980 the cost of transit services more than tripled nationwide, from just under $2 billion to over $6.5 billion, while farebox revenues increased a mere 50 percent, from $1.64 billion to $2.46 billion. Moreover, the federal assistance program, which many transit systems depend on, is under threat of termination. A systematic procedure is presented that analyzes and evaluates any given transit route. The impact of bus service cutback programs, spatial and temporal changes on farebox revenues and operating deficits is investigated, and efficient route factors that minimize operating deficit are identified.

"Bus Cooperative Systems in Korean Cities," Jaimu Won, April, 277–287.

Like other major cities in developing countries, Korean cities use buses to a greater extent (60 to 80 percent) than any other urban transportation mode. The bus is unlikely to be displaced as the dominant mode for many years. Despite the importance of bus service, there have been many problems surrounding its operation and management. In an effort to overcome these problems, four Korean cities have implemented bus cooperative systems.

ECONOMICS

"Economic Development and State-Level Transportation Policy," David J. Forkenbrock and David J. Plazak, April, 143–158.

The emerging nature of state DOT involvement in providing transportation improvements to facilitate economic development is examined. A series of policy issues are contemplated, relating to how positive economic benefits can be assured from transport improvements and how significant contributions from private sector investors can be attracted. Results of a survey of all state DOTs

TRANSPORTATION QUARTERLY, Vol. 40, No. 4, October 1986 (601–608)
© 1986 Eno Foundation for Transportation, Inc., Westport, Connecticut

and highway departments that inquired about the nature and extent of current programs geared toward fostering economic development are reported. Finally, one of the more innovative state-level programs, Iowa's RISE program, is discussed.

"Mobility Costs: Household Travel Expenditures in Riyadh, Saudi Arabia," Parviz A. Koushki, October, 571–578.

The tremendous economic boom of the last decade in the oil-producing nations of the Persian Gulf has reshaped the socioeconomic infrastructure of households, especially those in urban areas. This article reports on a major consequence of this rapid economic development—the dramatic increase in the level of household mobility and travel—and compares household travel expenses in Saudi Arabia to the United States.

"Life Cycle Costing in the Transit Industry: A Good Idea Turned Sour and What to Do About It," T.H. Maze and Allen R. Cook, July, 397–409.

Life cycles costing (LCC) procedures are based on sound engineering and economic principles and represent the "common sense" approach to equipment procurement. LCC-based procurement of buses is likely to be particularly appropriate since the post-purchase costs associated with this type of vehicle greatly outweigh the initial costs. The authors recommend use of LCC be promoted by establishing proper institutional support and guidance on LCC techniques, and collecting and disseminating operating and maintenance data.

EDUCATION

"Designing and Marketing Transportation and Logistics Degree Programs for Working Professionals," Lawrence F. Cunningham, July, 375–397.

Universities today are facing declining enrollments that will result in the closing of many institutions. It is unlikely that professional schools in areas outside medicine will completely escape the problems presently plaguing liberal arts institutions. While existing transportation, transportation-related, and logistics programs may gradually respond to these trends, many institutions with existing T&L programs or institutions contemplating such programs face severe competitive problems in attracting students. Marketing techniques originally developed for the private sector may hold the key to survival for these institutions.

ENO FOUNDATION

"Changing of the Guard While on the Cutting Edge," (editorial) Roland A. Ouellette, April, 129–130.

The changing of the guard at the Eno Foundation coincides with many rapid changes occurring in the transportation field. Some of these changes will have profound impact on the very soul and character of transportation. The rapid evolutionary process presently underway is there for all to see, understand, and respond to; and no aspect of transportation will be left untouched by it.

HAZARDOUS MATERIALS TRANSPORTATION

"Local Response to Hazardous Materials Incidents and Accidents," AAA Foundation, October, 461–482.

A framework is provided within which local governments must operate as they attempt to control the movements of hazardous materials through their communities, and as they attempt to develop the capability for responding to incidents and accidents that may occur.

"Estimates of Current Hazardous Flow Patterns," George List and Mark Abkowitz, October, 483–502.

Quantification of hazardous materials flows is a major problem today. No one has yet succeeded at preparing comprehensive statistics, not even the Office of

Hazardous Materials Transportation. No other federal or state agency has collected the necessary data, nor has anyone created a composite public database specifically geared toward hazardous materials. This article presents a detailed account of hazardous materials flows, by mode and geographic regions of the country. It also identifies opportunities to improve these estimates through better data collection techniques and funding priorities.

"Selected DOT Hazardous Materials Transportation Training Regulations and Options for Congressional Action," Paul F. Rothberg, October, 451–460.

This article is taken from testimony presented to the joint Congressional hearing on H.R. 4612 and DOT's hazardous materials transportation program. It considers whether increased training could reduce the role that human error appears to play in causing most hazardous materials transportation incidents. It also analyzes DOT's current and proposed training regulations for truck drivers transporting and workers handling hazardous materials in the highway mode. The article concludes by relating its findings to, and comments primarily on, Sections 8 and 9 of H.R. 4612.

INTERMODAL FREIGHT

"Intermodal Movement of Bulk Commodities," William T. Fullman, January 89–96.

Bulk and containerized carriers are pioneering new intermodal paths, and are even developing containerized bulk movements. The bulk intermodal system, while efficient, is not a replacement for efficient direct truck or rail service. Specific needs of the shipper and receiver must be met with the best combination of distribution alternatives. The form of bulk intermodal transfer selected is a critical decision point.

"Intermodal Freight Transportation," John H. Mahoney, January, 85–88.

Intermodality is a tribute to entrepreneurial ingenuity in a free society, and to the wisdom of deregulating transportation. Intermodality is an essential element to the success of global marketing. It is a simple and logical process with a constantly improving level of technical performance, resulting in greater competitiveness among carriers, lower prices, improved service and expanded flexibility for those who want to move goods or documents.

"Shipper's Agents," Gregory P. Smith, January, 109–116.

Shipper's agents are the epitome of middlemen: they do whatever it takes to put together a cost-effective, quality intermodal package. They buy piggyback service from railroads on a wholesale basis and resell it to shippers at less cost than if shippers bought it directly. The agents take advantage of multiple container or minimum quarterly rail rates by combining traffic from many shippers.

See Also Air, Airfreight Forwarders; Water, Ocean Carriers

LAND USE

"Transportation Parks—A Promising Approach to Facilitate Urban Goods Movement," Arun Chatterjee, Richard A. Staley, and John R. Whaley III, April, 211–220.

The concept of a "transportation park" advocates clustering truck terminals, distribution centers, and warehouses at appropriate locations. It offers considerable promise for minimizing the movement of all types of commercial trucks within metropolitan areas, and also reducing other adverse environmental impacts, as well as the cost of goods movement.

LEGAL

"New Trends in Government Regulation," Alan E. Pisarski, January, 65–74.

Economic deregulation has responded to the evident weaknesses and inefficiencies in the traditional regulatory process. The deregulatory process is not complete, however; many regulatory barriers remain. Generally, deregulation has been a success in introducing strong market-oriented logic to carrier and shipper/passenger decisions. Yet deregulation has exposed previously hidden bottlenecks to transport productivity in the form of infrastructure constraints, safety and financial responsibility requirements, among others, including existing state regulations that burden interstate transportation.

"The Surface Transportation Assistance Act of 1982: Short-Term Hopes and Long-Term Implications," Peter L. Shaw, July, 411–432.

Every now and then, the cauldron of public policy has an outburst clearly recognized as a dividing line between era, philosophy, and practices. There is reason to believe that the Surface Transportation Assistance Act of 1982 (STAA) may be such an event. If that is really the case, the STAA is a significant part of a continuing public policy drama reserved for more "glamorous" transportation sectors. This article explores the development and early implications of the act.

MANAGEMENT

"Transportation's New Look—The Challenges Ahead," Thomas B. Deen, January, 25–28.

The kinds of changes facing the transportation professional today, while not as dramatic, perhaps, as those in the past, are no less swift, only a bit more subtle. Economic deregulation, the explosion in communications and information technology, and the evolution of transportation technology have been reflected in the new look of our transportation systems. Emergence of a competitive world economy has demanded change. The ultimate impacts are difficult to foresee.

"Managerial and Financial Challenges Facing Transport Leaders," Robert V. Delaney, January 29–54.

Transportation is a service business whose demand is derived directly from the production it supports and the distribution it serves. This examination of the managerial and financial challenges facing transport leaders focuses on the strengths, weaknesses, opportunities, and threats facing producers and distributors.

"Profile of Today's Transport User," Richard Haupt, January, 55–64.

Today's transportation user is a true logistician—a person who examines all the costs of logistics and attempts to produce the best bottom line. The traffic manager is supported by innovative and creative carriers who understand the problems and how to best meet them. Today's traffic manager must understand things like computers, electronic data interchange, electronic fund transfers, cost accounting, etc.

"Is Transportation's Most Vital Resource Going Virtually Untapped?" (editorial) H. Burr Kelsey, January, 3–4.

There is a vital need to establish a better pipeline that will enable managers to more effectively tap transportation's most vital resource—people. The science of managing people, which derives its scientific base from the behavioral sciences, virtually brings up the rear of the long procession of evolving sciences. But, whether at the rear or otherwise, management is in lockstep with this advancing parade. Thereby management is inexorably being drawn into the same vortex of change that has already engulfed most parts of the transportation industry.

PARATRANSIT

"Public-Private Joint Development at Rapid Transit Stations," John G. Allen, July, 317–333.

The joint development process can hardly be taken for granted; it must be

carefully planned and coordinated from the start. While specific experiences with joint development vary from city to city, there are several basic common denominators for success. This article addresses the essential ingredients of successful joint public-private development at rapid transit stations, and reviews the actual experiences of several North American cities.

"Transit Marketing: A Strategic Approach," John W. Bates and J. Dewel Lawrence, October, 549–558.

Marketing is a basic component of public transportation. Urban public transit operators, however, historically lost sight of basic marketing concepts and demonstrated a production rather than a marketing philosophy. Recently, more attention has been directed toward transit marketing, but the primary focus has been on advertising and promotion rather than a fully integrated marketing program. This article describes the development and weaknesses of modern transit marketing and provides recommendations for improvement in the principal marketing areas of product development, pricing, promotion, and evaluation.

"Urban Transit in Canada: Integration and Innovation at Its Best," Robert Cervero, July, 293–316.

Canada's steady progress in the urban transit field offers valuable lessons to transit interests in other countries. Canada's experience shows that people will opt for buses, subways, and streetcars as long as these services compare favorably with the automobile in terms of speed and reliability. The 75 percent transit modal split for peak hour, downtown trips in places like Toronto leaves little doubt that service integration and coordinated schedules can lure commuters out of their cars. Canadian experiences likewise suggest that high levels of transit service can lead to high farebox returns and fiscal vitality.

"Transit Corporate Planning: Trading-off Fares, Service Levels, and Capital Budgets," Armando M. Lago, April, 221–242.

The essence of the transit corporate plan is the process of planning and decision making, of adopting corporate objectives that reflect the public service aims of transit service, of evaluating alternatives and of developing standards to balance the revenue and capital needs of transit operations. Transit corporate planning techniques, some borrowed from European practice, are ready for experimentation and demonstration in U.S. transit settings. The next few years should witness increased interest and actual implementation of these corporate planning concepts and techniques.

"Developing a Transit Agency Comprehensive Training Plan," Daniel E. O'Toole and James Marshall, April, 263–276.

This article provides a process for developing a comprehensive plan that identifies training needs for all positions in a transit agency. The process is a highly useful tool for helping an agency design, implement, and manage its own comprehensive training program.

"An Evolving Process: The San Francisco Bay Area Performance Audit Program," Therese Watkins, July, 357–374.

Performance auditing has been an important program for San Francisco transit systems since the process was established by the California Legislature in 1977. This article focuses on the evolution of the performance audit process since its inception in 1978, outlining the basic foundation, the gradual changes that have taken place since its implementation, the problems identified with the process, and MTC's recent reevaluation and subsequent actions taken to address the issues surrounding the program.

RAILROADS

"The States and Amtrak," David C. Nice, October, 559–570.

In recent years a number of states have subsidized Amtrak service in order to expand the availability of passenger rail service. Subsized routes generally connect major population centers and are typically less than 320 miles long. This article explores other characteristics of subsidized Amtrak service including tourism and access to state capitals.

SPACE

"Commercialization of Space," James M. Beggs, January, 7–24.

NASA is encouraging and assisting private enterprise with free tickets into space. Experiments of companies with commercial interests in the new and unique opportunities offered by space-manufacturing will be flown into space without charge until an economically viable product is developed. Currently, free transport is limited to the most commercially promising ventures, but by the early 1990s NASA expects to have a permanently manned space station in orbit, enabling more commercial activity. This effort to breach the economic frontier of space could spawn a new industrial revolution.

STREETS AND HIGHWAYS

"Streets for People and Transit," Herbert S. Levinson, October, 503–520.

This article traces the development of pedestrian and transit streets, discusses the principles that underlie planning and design, and gives illustrative examples of projects that have been built, are in process, or are proposed.

"Tackling Traffic Congestion in the San Francisco Bay Area," Natalie McConnell-Fay, April, 159–170.

Traffic mitigation is not a panacea for transportation problems. In a growing urban region, such as the Bay Area, traffic mitigation must be viewed as one leg of a three-legged stool, the other two legs being land use and infrastructure planning. Traffic mitigation will not eliminate the need for additional facilities, but can assure that facilities are used more efficiently.

"Reducing Commuter Traffic Congestion," Lew W. Pratsch, October, 591–600.

In spite of problems in the U.S. commuting system, a tremendous opportunity exists to increase productivity while saving billions of construction, maintenance and subsidy dollars. The United States has a grossly underutilized commuting system. This article explores how the number of commuters transported each day through highway and rail systems can be increased.

"Lower Gasoline Price Creates New Fear," (editorial) Mark D. Robeson, July, 291–292.

In the United States, motor vehicles were driven a record 1.7 trillion miles in 1984, and they were operated by over 157 million licensed drivers. Available data suggests that these figures are continuing to grow. With lower gasoline prices, some traffic observers see the vehicle miles of travel increasing at a steeper rate than previous years of this decade. The fear is that greater vehicle usage will carry with it the potential for greater accident exposure.

"Continuing Highway Program," (editorial) Wilbur S. Smith, October, 449–450.

The Interstate Highway System is nearing completion, yet demands for more highway capacity are increasing daily. The question this poses is: Can we match the vision and actions of those before us in planning and implementing a continuation of the necessary expansion and improvement of highways—the nation's transportation backbone?

"Current Highway Transportation Interests," Wilbur S. Smith, April, 131–142.

Highways will continue as the dominant mode of transportation for at least several more decades. Highways will

provide service to more people, will accommodate more trips, and will continue to have a significant role in providing for the movement of commodities. Many existing roadways, however, do not have adequate capacity to handle the expanding demands of a growing economy. Major issues and trends are discussed that may point to future concerns in highway transportation. Principal issues about which states ought to be concerned are identified in order to look objectively at problems and concerns.

"Completion of Interstate Highway System and Subsequent Needs," Wilbur S. Smith, October, 579–589.

The Interstate Highway System has often been referred to as one of history's greatest public works projects. Obviously, its completion is essential; but, equally important is the need to plan for highway transportation demands "after the Interstate."

"Traffic Signal Change Intervals: Policies, Practices, and Safety," Howard S. Stein, July, 433-445

The recommended procedures for timing traffic signal change intervals (the yellow and all-red phase after a green light) are not applied consistently throughout the United States. The duration of signal change intervals should be related to individual intersection characteristics such as vehicle speeds and cross-street width; however, signal timing practices do not often account for these factors. If signal change intervals are too short, drivers may be forced to emergency brake or to be in the intersection when cross-street traffic is given the right-of-way with a green light. This article reviews the basic policies for traffic signal change interval timing, the current timing practices based on these policies, and their implications for the safety of motorists and pedestrians.

"Transportation Policies in a Medieval City," Peter T. Suzuki, October, 521-532

Bruges, a historic medieval town in West Flanderrs, Belgium, was faced with a mounting crisis epitomized by traffic gridlock. Plans were drawn up in the early and mid-1970s to deal with the motor vehicle and its attendant problems. This resulted in various policies, including parking; thoroughfares; malls and cul-de-sacs; light-traffic streets; touring-bus parking; bicycles; and the public transportation system. Other cities can learn not only from the specific policies implemented by Bruges but also from the broad frontal approach taken to cope with the motor vehicle in this compact and highly nucleated city.

"Patterns of County Road Financing: A Case Study of Counties in Texas," Robert S. Winer, Hani S. Mahmassani and C. Michael Walton, April, 189-210

The result of a study aimed at documenting the current situation and recent trends in financing county road maintenance and construction in Texas is summarized. Road expenditure patterns of counties and some of their underlying determinants, as well as the various revenue sources and their relative contribution in meeting county expenditure requirements are examined. This information helps assess the ability of Texas counties to finance road spending requirements and to formulate related policy at the state level.

"Traffic Trends and Emerging Transportation Planning Issues in the Delaware Valley Region," Thabet Zakaria, April, 171-188

Recent changes in land-use patterns and the distribution of people and jobs in the Delaware Valley Region are described. Impacts of these changes on the journey-to-work pattern and highway and transit volumes in the region

are analyzed. Based on this analysis, some emerging transportation planning issues and questions are outlined for planners and decision makers to consider when developing land use or transportation plans, programs and policies.

TECHNOLOGY

"The Utilization of High Technology is Highway Engineering and Management," Lester A. Hoel, October, 533-547

Recent developments in high technology that could have an impact on the nation's highway system are described. Information on current applications and on-going research that link high tech to highway transportation is presented. In addition, recent activity in this field, particularly with state DOTs, and the likely impacts of these developments and appropriate strategies for the future are described.

"Technological and Engineering Breakthroughs—Real or 'Buck Rogers'," Herbert H. Richardson, January, 75-84

Not surprisingly, technological gains will continue to be made in the years ahead. What they bring in improved mobility, however, may be influenced as much by economic, social and political shifts as they are by technological advancement. The impetus for new technology will generate from public feedback. The public will decide if technology's advantages, including economic advantages, are worthwhile. Economics rather than technology may well determine the state of transportation in the future.

WATER

"Water Mode to the Rescue: Past and Future Ferry Service in New York City," Sigurd Grava, July, 333-356.

New York's waterfront and waterways have been used for different purposes during different periods of its history. They are definite assets whose importance is being recognized again. There is considerable hope that during the next decades New Yorkers will be able once more to get at, on, and across the city's and region's water surfaces with ease and emjoyment. The ferry appears to be coming back, attempting to reclaim its traditional role in the water-rich environment of New York.

"Ocean Carriers," Vincent P. Staunton, January, 117-126

The history of the maritime industry is not a straightforward one of simple and direct competition among independent participants. Instead it has been affected by governments and conferences. The container revolution has projected a much more competitive cast on the maritime picture in general. The overwhelming efficiency of containership operations has forced many shiplines either to convert to this more efficient system or to perish, despite the helping hand of government subsidy or conference protection.

[illegible]